

# NATURAL HISTORY MISCELLANEA

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## A Bot-fly Parasitic in Box Turtles

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During a periodical examination of turtle specimens in the Reptile House of the Chicago Zoological Park at Brookfield, Illinois, it was noted that one female Florida box turtle, *Terrapene carolina bauri*, was infected with some type of parasite under the skin. Small mounds at the edge of the carapace appeared unusual and the limbs and neck extended outward quite rigidly. On November 7, 1947, this turtle died and post-mortem examination showed limbs, neck and internal body cavity infested with twenty-three larvae of a bot-fly, identified as *Sarcophaga cistudinis* (Aldrich) by Dr. C. H. Curran, Curator of Insects and Spiders, American Museum of Natural History.

Another turtle of the same species, one of two in the collection of 50 *Terrapene* and still living, was also infested with bots, but these were visible, the posterior protruding from the skin. There were nine in all: three imbedded in the neck region where the neck joins the carapace, two at the right foreleg near the bridge of the shell, and four at the hind limb near the bridge. When slight pressure was applied, a portion of the larvae extended outward. Four of the largest larvae were withdrawn with forceps, leaving a clean pocket with no bleeding and apparently no injury to the specimen, although the larvae held tightly by means of the barb at the head. The remaining five were left in the host for further development.

The twenty-three larvae from host No. 1 and four from host No. 2 were placed in an improvised incubator consisting of a wide-necked gallon jar with a screen lid, two inches of fine moist sand and a tablespoon of horse meat, kept at temperature of 80 to 85 degrees Fahrenheit. Fourteen of the twenty-seven larvae imbedded themselves in the meat, while the others burrowed into the sand to pupate. Host No. 2 was placed in a large aquarium cage with sand bottom, water container and screen top, and given general care for further development. On November 15 pupation started and in two days ten larvae pupated. These pupae were placed in another aquarium with a common box turtle as Host No. 3. The first bot-fly to emerge was on the

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24th of November and by the 30th, nine were hatched. Fly matings were observed frequently but no egg-laying took place. Pieces of meat and banana were placed in the cage, suspended from the top screen, to see whether egg-laying would take place on the food rather than on the turtle or in the sand. The food was removed daily, examined for eggs, and placed in small jars for incubation, but proved to be negative. The two hosts were kept in separate cages for a period of six months to complete the cycle of the bot-fly. The fly matings took place in mid-air for about half a minute and the flies lived for fourteen days after emerging from the pupa stage. Host No. 2 had eleven additional larvae besides the previous four removed, six more than when first observed on November 7, and those dropped voluntarily, a few days apart, and pupated in the sand. The turtle ate two of these flies and to this date, (September 30, 1948) no occurrence of reinfestation has taken place in either host.